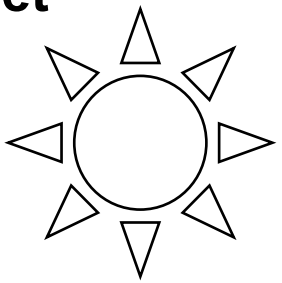
Solar Electric (Photovoltaic) System Sizing Worksheet



#1. Add-up 1 year's-worth of electricity use and divide by 12 to determine your

Average Monthly Electricity Use = _____ kilowatt-hours (kWh)/month

#2. Divide #1's answer by 30 to determine your Average Daily Use: _____ kWh/day

#3. Determine your area's Average Daily Solar Radiation: _____ kWh/m^2/day

MT average = 4 Bozeman = 4.63 Access http://pvwatts.nrel.gov/ for another location's radiation.

#4. Divide #2's answer by #3's answer: #2: _____ ÷ #3: _____ = _____ kW/day

#5. What % of your electricity do you want produced by the sun? If 100%, use #4's answer and proceed to #6.

Multiply #4's answer by the % (x.50 if only 50%, etc.): #4 _____ x _____ = _____ kW/day

#6. To account for system inefficiencies, multiply #4's or #5's answer by 1.3 (a derate factor):

#4 or #5: _____ x 1.3 = _____ kW **This is the photovoltaic (PV) system "Size" needed to meet your electrical load.**

How many PV modules will you need?

#7. Multiply #6's answer by 1,000 to convert to watts: #6: _____ x 1,000 = _____ watts

#8. Divide #7's answer by a PV module's Peak/Max Power. 370-watt modules are often used for residential projects; 470-watt modules for commercial: #7: _____ ÷ _____ watts = _____ PV modules

Note: *This worksheet provides a general estimate for a south-facing, fixed-tilt system. An installer will conduct a site analysis and provide exact sizing information. PV modules are just one component of a PV system.*

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